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ABSTRACT

Synectics is an approach to creative thinking that depends on understanding together that which is apparently different. Its main tool is analogy or metaphor. The approach, which is often used by groups, can help students develop creative responses to problem solving, to retain new information, to assist in generating writing, and to explore social and disciplinary problems. It helps users break existing mind sets and internalize abstract concepts. Synectics can be used with all ages and works well with those who withdraw from traditional methods. Teacher-facilitators can use synectics in the classroom by leading students to: (1) describe a topic by generating words or phrases; (2) generate a list of vivid mental images that are directly analogous to the first list created; (3) select one of the direct analogies and create a personal analogy by becoming the object they choose and describing what it feels like; (4) find word pairs that seem to be contradictory but actually yield creative insight; (5) choose one of the conflicting pairs and create a different direct analogy by generating examples of things that have the same compressed conflict; (6) reexamine the original topic to produce a product or description that uses the ideas generated in the process. (KRN)

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Synetics and Imagery: Developing Creative Thinking Through Images

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This paper will describe synectics: what it is, the steps a facilitator or teacher would use in the process, the connection of synectics to visual literacy, and how synectics can be used in a school curriculum. It is worthwhile to think of synectics as a tool in the search for creative problem solving strategies or in the development of more creative products.

Fog

The fog comes
on little cat feet.
It sits looking
over the harbor and city
on silent haunches
and then moves on.
-Carl Sandburg
(in Joyce, et. al, 1992)

What is Synectics?

Cat feet and fog are very different things, but the mental image created by Carl Sandburg helps the reader to understand both the cat and the fog in a surprising and delightful way. Synectics is an approach to creative thinking developed by William J. J. Gordan and his associates (1961). It comes from the Greek term meaning "understanding together that which is apparently different" (Gunter, et al., 1990). Synectics is a group process which allows each individual to develop "insight" into a topic or concept. The main tool for developing this "insight" is analogies or metaphors.

In the use of synectics, metaphor is broadly defined to include all figures of metaphorical language, e.g. simile, personification, oxymoron. One of the common strategies in creative problem solving has been to "relook" at common things in our world in order to find creative solutions. For example, the person who invented VELCRO was pulling burrs from his dog when he discovered that the way the burr attached was through a simple hook on the end of each spine. Thus the hook and eye fastener known as VELCRO was developed. The use of synectics leads us into a world of slightly illogical discovery. Unlike most tasks in our lives which require logical, sequential thinking, many seemingly impossible tasks may require a "relook."

Conventional View of Creativity versus Synectics

Synectics helps us challenge conventional views about creativity. One view is that creativity is only used for special problems; however, creativity should be used in everyday activities. Creativity is not simply the great works of artists or musicians. It is part of our everyday lives. Gordon's "... model is designed to increase problem- solving capacity, creative expression, empathy, and insight into social relations" (Joyce, et al., 1992, p. 219). The meaning of some ideas or concepts can be enhanced by allowing us to "see" things in a different

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and more meaningful way. A second view of creativity is that it is intensely personal. Gordon suggested that groups as well as individuals can generate products which are creative.

Gordon believes that creativity can be developed through the development of new mental patterns. Part of the development of these new mental patterns involves asking the participant in the synectics process to draw upon emotions. An interplay between nonrational thoughts, i.e. emotions, allows for originality in developing new ideas. Gordon believes that intellect or logic is important but can stifle creativity. Constructively controlling the irrational and emotional responses of an individual is the goal of synectics (Joyce, et al., 1992).

Synectics helps to touch or the visceral core of our being. By controlling the process through analogy, the individual can develop new visions, either through imagery, nonverbal behavior, visual representations, or verbally. The author's experience has been that the user of synectics creates very vivid **visual images** as they apply the process. The images are very idiosyncratic and, therefore, more meaningful, which helps the user to create new insight into the concept or into the problem being scrutinized.

The Steps in the Synectics Model

Three forms of analogy are stressed in the synectics model: 1) direct analogy, 2) personal analogy, and 3) symbolic analogy.

The teacher begins by asking students to describe a topic with which they are familiar, either in small group discussions or by individually writing a paragraph. In the second phase of the model, the students form a direct analogy between the descriptive words on the board, (Step 1) and words from an apparently unrelated category. The teacher may ask the students to think of a food which reminds them of the words they generated in Step 1. A direct analogy is set up to make comparisons between two objects, ideas or concepts. How is democracy like a pizza?

Each of the students suggestions is listed on the board or overhead and each person is encouraged to explain why he or she chose their particular analogy. This part of the step is important for clarification of student thinking and as an informal diagnosis of an individual student's creative thinking. It is extremely important to be nonjudgmental about responses and to keep other students from being judgmental.

The facilitator's (teacher) job is to record the responses and to ask the students to generate reasons for each choice. These two simple guidelines are important at each step of the synectics model. When the teacher feels that everyone has had an opportunity to participate and the class is ready, the students vote on one particular analogy that they prefer. The teacher then asks the students to pursue this analogy in the next step of the synectics model.

The third step involves asking the learners to view reality from the perspective of the metaphorical object that they have just selected. Students are asked to tell how it feels to be this object, and then their reactions are listed on the board. Each person is encouraged to explain why he or she had a particular feeling. Personal analogy invites students to become a part of the problem to be solved or the image that is being explored. How does it feel to be a computer? What is it like to be a dandelion? The goal of this step is empathy.

The fourth step is to identify compressed conflicts. The teacher or facilitator asks the students to examine the list of words that they created in the last step and find word pairs that seem to fight each other. This symbolic analogy, or compressed conflict, involves descriptions that appear to be contradictory but are

actually creative insight, a kind of oxymoron, e.g. "open secret," "deafening silence."

The fifth step is to create a new direct analogy. Once you have chosen a compressed conflict, the students will then generate a list of examples of animals or machines or foods which have the same compressed conflict.

The final step is to reexamine the original topic. The class takes the last analogy and compares it to the original topic. No mention is made of the original subject until this last step. The purpose is to get away from the original topic, step by step. The class will rediscover the original topic with much more insight using vivid and rich imagery which has germinated during the process. When asking them to write about the original topic, the students may use any of the analogies generated during the process.

What follows is a brief description of each step of the process:

Steps

1. Describe the topic:

Select a subject to explore with the class. This may be from any discipline. It may be a character from a novel or a concept such as democracy. It may be a problem which needs to be solved. Students generate descriptions of the content in writing, orally, or perhaps in drawings. The teacher lists the words or phrases on the board or overhead and also asks students why they chose that word or phrase.

2. Create direct analogies:

Select a category - plant, machine, food, animal - and have students generate a list from that category, foods for example. This list would have the same characteristics as those words listed in Step 1. Be sure to ask why they chose those particular foods. Ask them to generate vivid mental images. Mental images are powerful tools in the process.

3. Describe personal analogies:

Have students select one of the direct analogies and create personal analogies. Students "become" the object they choose and then describe what it feels like to be that object. They develop an empathy for that object.

4. Identify compressed conflicts:

Ask the students to pair words which seem to fight each other. Always have the students explain why they chose the words which conflict. Then have the students choose one by voting.

5. Create a new direct analogy:

Choose one of the compressed conflict pairs, then ask the students to create a different direct analogy by selecting something that is described by the paired words (a plant, a fruit, an animal, a song, etc.).

6. Reexamine the original topic:

Return to the original idea or problem so that the student may produce a product or description that utilizes the ideas generated in the process. They may concentrate on the final analogy or use analogies created in the other four steps (Gunter, et al., 1990).

Why Synectics?

Gordon looks at synectics as a method of developing creative responses to problem solving or production. He encourages creativity and uses group cohesion to raise the energy level of the group in order to develop a thinking community of learners. A significant use of this model is the generative power of a variety of perspectives for viewing topics. However, rarely do the advocates of this model discuss its merits for the retention of information. The use of commonly accepted analogies, or universally accepted knowledge to frame new knowledge, has

been shown to be helpful in the retention of new information. The schema theory is based on the premise that students must establish a prerequisite knowledge base before any long-term, meaningful learning can take place. Using synectics to help students generate a knowledge base can help them also retain information. By creating a visual imagery, thus using existing schemata, the student will enhance long term memory. Visual imagery has been shown to be a powerful learning tool. The potential uses of the synectics model in the curriculum are numerous.

The use of synectics in the writing process has been shown to be very helpful when it comes to generating expository and creative writing. It can help students develop a personal style of writing. Additionally, by developing a creative community of learners the synectics process allows for a group of serious peers who can help the writer to become better through peer feedback. The "relook" of a familiar topic can enhance one's long term memory and ability be creative.

The model is helpful in exploring social and disciplinary problems within a classroom or a team. The use of metaphor creates distance, that is, the process allows the students to escape the often occurring finger pointing; it is less threatening. The personal analogy phase allows for self-examination and insight.

In the creative problem solving domain, the most important thing that the synectics model can do is to help the users to break existing mind sets and to relook at the problem. Concepts such as democracy, prejudice, and values are difficult to internalize because we cannot see them. They often rely on concrete, visual image examples to define them, e.g. the United States as a democracy, the picture of the KKK as an example of prejudice, or a mother, father and children as a picture of family. However, synectics is a way to make the familiar different and to gain new insights or to deepen our understanding of the concept. The use of visual images to establish a mindset is common in the advertising business. The use of synectics can help us see our world differently. Any time we can "relook" at our world we are enhancing our visual literacy.

Synectics can be used with all ages, although very young students find it difficult. The model works well with students who withdraw from traditional methods of teaching and learning. The renewal which synectics brings to the classroom often occurs because it rewards creative responses. It also works with more advanced students who are always rewarded for the "right" answer and very structured thinking. It makes them think divergently and creatively rather than convergently and didactically.

Synectics has been developed to help increase the creativity of individuals and to allow them to develop new insights into problems, to reexamine their world. It is the author's hope that the reader will try it with students or in groups of business people to produce new products. The author knows of several instances where the technique is used to enhance design teams. In this visual world, this world which is constantly changing and in which we need creative solutions to serious problems, we frequently need to relook at our world. Synectics can help us to relook and to find creative solutions.

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